CLAIMS

1. A device for producing a fluid containing a radioactive constituent, the device comprising: a shielded chamber within which is located an isotope container housing a radioactive isotope, the shielded chamber including first and second fluid connections to opposing ends of the isotope container and a fluid conduit extending from each of the first and second fluid connections to a fluid inlet and a fluid outlet respectively characterised in that the fluid inlet comprises a single spike having a substantially circular cross-section, the spike being adapted to penetrate the rubber seal of a vial and the spike having two bores, the first bore extending from a first aperture adjacent the tip of the spike to a fluid connection with the fluid conduit and the second bore extending from a second, separate aperture in the spike to a filtering air inlet.

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- 2. A device as claimed in claim 1 further comprising an outer housing which supports the fluid inlet and the fluid outlet and the spike of the fluid inlet projects through an aperture in the outer housing.
- 20 3. A device as claimed in claim 2, wherein the outer housing defines a well about the aperture through which the spike projects, the well being structured to receive a vial.
- 4. A device as claimed in any one of the preceding claims, wherein the filtering air inlet contains a filter disk of polytetrafluoroethylene.